



Model: 232ABRJ45

Connect your PC/Laptop to a PLC Programming Port

RS-232 to RS-485 PLC Converter

Overview

Make quick and easy connections to your Allen Bradley models SLC 500, 5/01, 5/02, & 5/03™ PLCs using B&B's model **232ABRJ45**. LEDs monitor communications traffic. No power supply is required since the PLC delivers power directly to this compact converter. The unit has a DB25 female connector on the RS-232 side and an 8-pin female RJ45 connector on the RS-485 side. Cables are included for easy connections. A 6-inch cable with a DB25 male connector on one end and a DB9 female connector on the other is included for your RS-232 connection. For direct connection to your PLC, a 7-foot, 8 conductor RJ45 cable with male plugs is provided.

The 232ABRJ45 converts unbalanced, full-duplex RS-232 signals to balanced, half-duplex RS-485 signals. The converter uses Request To Send (RTS), pin 4 of the RS-232 side, to enable the RS-485 driver. When this pin is asserted, the driver is on and the receiver is off, and vice versa if RTS is disasserted. The RS-485 driver/receiver supports data "+" and data "-". Transmit Enable (TX-EN) is also pinned out to the RJ45 connector.

Between the RS-232 and PLC sides, optical isolation of 2000 VAC is also present on the data, control, and power lines for added security against conventional problems like ground loops, spikes, and surges.

Features

- Pocket size
- Easy connections
- Provides 2000 V AC isolation
- Powers directly from PLC
- LEDs for quick reference

Connections

The RS-232 side is configured as a standard DCE device, so the provided adapter cable connects directly to your PC or laptop. The RS-485/PLC attaches straight to your PLC with the provided RJ45 cable. Table 1 shows the pin outs of the RS-232 connector and Table 2 shows the pin outs for the RS-485/PLC side.

Table 1. RS-232 Pin Outs

Signal	DB25F Pin #	Direction
TD	2	Input
RD	3	Output
RTS	4	Input
CTS	5	Loop to pin 4
DTR	20	Loop to pin 6, 8
DSR	6	Loop to pin 8, 20
DCD	8	Loop to pin 6, 20
GND	7	N/A

Table 2. RS-485 Pin Outs

Signal	RJ45F Pin #	Direction
Data +	1	Input/Output
Data -	2	Input/Output
TX-EN	5	Output
Power	3	N/A
Power	8	N/A
Ground	4	N/A
Ground	7	N/A
No Connect	6	N/A

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Specifications

RS-232 Connector: DB25 female
 RS-485 Connector: RJ45 female
 Speed: Factory default to 9600 baud (19.2k bps max.)
 LEDs: (1) red LED for TD status
 (1) red LED for RD status
 Isolation: 2000 VAC
 Power Requirement: 24 VDC @ 25 mA from PLC typical (input range +10-30 VDC)
 Approval: FCC Class A
 Temperature: 0 to 70°C (32 to 158°F)
 Dimensions: 2.4 x 3.8 x 0.9 in (6.1 x 9.7 x 2.3 cm)
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Baud Rate

Two resistors and one capacitor determine the baud rate. These components are factory selected to run at 9600 baud. With these components, the RS-485 driver will shut off approximately 1 ms after the last character has been sent. If you would like to configure the 232ABRJ45 for a specific baud rate, see table 3 and figure 1 below.

Table 3. Component Replacements for Changing Baud Rate Timeouts

Baud Rate	R13 (Ohm)	R14 (Ohm)	C10 (uF)
300	330K	Remove	0.1
600	160K	Remove	0.1
1200	820K	Remove	0.01
4800	200K	Remove	0.01
*9600	Open	130K	0.01
19200	56K	Remove	0.01

*Factory default setting

DECLARATION OF CONFORMITY

Manufacturer's Name: B&B Electronics Manufacturing Company
 Manufacturer's Address: P.O. Box 1040
 707 Dayton Road
 Ottawa, IL 61350 USA
 Model Number: 232ABRJ45
 Description: RS-232 to RS-485 PLC Converter
 Type: Light industrial ITE equipment
 Application of Council Directive: 89/336/EEC
 Standards: EN 50082-1
 EN 61000 (-4-2, -4-3, -4-4, -4-6)


 William H. Franklin III, Director of Engineering



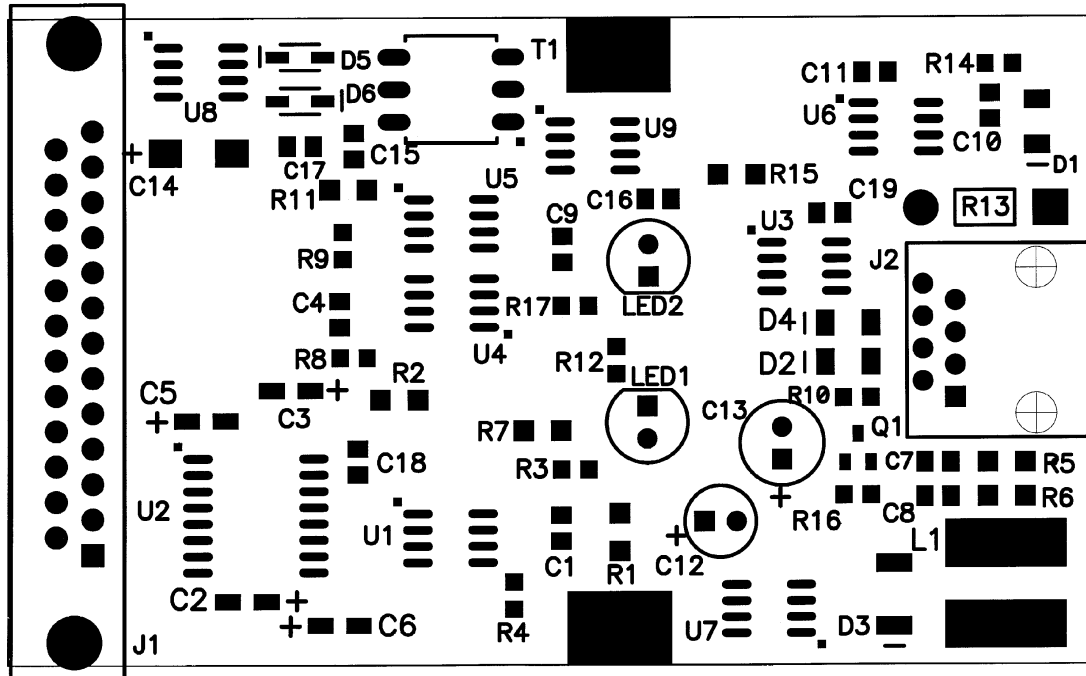


Figure 1. 232ABRJ45 Layout

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